Hemlock Woolly Adelgid – *Adelges tsugae*

Adelges tsugae and their woolly excretions

Adelges tsugae on eastern hemlock

Resulting damage to eastern hemlock

The hemlock woolly adelgid (HWA), *Adelges tsugae* is a native insect to Japan and China. In 1924, HWA was discovered in the Pacific Northwest on western hemlocks and by 1954 they had reached the East coast. In the Northeast, HWA has become a serious pest on eastern hemlock *Tsuga canadensis* and carolina hemlocks *Tsuga caroliniana* because there are no natural predators. The adults, which are all females, are about the size of this period (.) and are covered with a white woolly substance, which makes them more visible to the naked eye. The adults have two generations per year and each generation produces between 50-300 eggs. For the most part, HWA are not capable of spreading without the help of wind, birds and mammals and logging activities. The exception is when HWA is in the crawler stage and they can move onto a neighboring hemlock, which is in contact with the branch they're on. Both immatures and adults feed on the needles, twigs and stems of all stages of hemlocks. The feeding damage can result in reduced plant vigor and a lowered immunity to fight off disease. In many cases, hemlock needles turn yellow, then brown and finally drop. If more than 50% of the foliage is lost, then there is high probability that the hemlock will die within 4-6 years of being infested.

Recently, HWA was discovered on a few mature eastern hemlocks in the City of Portsmouth New Hampshire. An inventory of hemlock trees growing in Rockingham County identified several other HWA populations. On December 7, 2000, the NH Department of Agriculture, Markets and Food (DAMF) and the NH Department of Resources and Economic Development (DRED) issued a joint quarantine for all of Rockingham County. Since then, other isolated cases of HWA have been found in the state, but their populations are too small for quarantine measures, at this time. The DAMF and DRED have initiated control measures to prevent HWA numbers from increasing.

INDICATORS TO LOOK FOR:

- Whitish woolly tufts, about 1-2 mm in size, on underside of needles
- Grayish-green appearance of needles
- Twigs die back from the ends
- Heavy infestations may cause needle drop, reduced plant vigor, and partial or complete mortality of the host tree(s).

CONTACT:

If you know or suspect that you might have Hemlock Woolly Adelgid on your eastern hemlock *Tsuga canadensis* or carolina hemlock *T. caroliniana*, please contact Tom Durkis at (603) 271-2561 or via email at: tdurkis@agr.state.nh.us.